

In PNAS March 17, 2009 vol. 106 no. 11 4567-4570: "Unconscious effects of language-specific terminology on preattentive color perception" by Guillaume Thierry, Panos Athanasopoulos, Alison Wiggetta, Benjamin Deringa and Jan-Rouke Kuipers

Abstract: It is now established that native language affects one's perception of the world. However, it is unknown whether this effect is merely driven by conscious, language-based evaluation of the environment or whether it reflects fundamental differences in perceptual processing between individuals speaking different languages. Using brain potentials, we demonstrate that the existence in Greek of 2 color terms-ghalazio and ble-distinguishing light and dark blue leads to greater and faster perceptual discrimination of these colors in native speakers of Greek than in native speakers of English. The visual mismatch negativity, an index of automatic and preattentive change detection, was similar for blue and green deviant stimuli during a color oddball detection task in English participants, but it was significantly larger for blue than green deviant stimuli in native speakers of Greek. These findings establish an implicit effect of language-specific terminology on human color perception.